

REMARKS

Claims 1-8, 10-12, 14-17 and 22-37 are cancelled.  
Claims 9, 13, 18-21 and 38 are amended. Claims 9, 13,  
18-21 and 38 are presented for examination.

Applicants acknowledge with appreciation the  
Examiner's helpful comments and suggestions regarding the  
specification. It is believed that with the present  
amendments the informalities and objections have been  
overcome.

Submitted herewith is a revised sequence listing to  
include sequences found on pages 12 and 25 that by  
oversight had not been included in the sequence listing  
submitted December 20, 2001.

Applicants have amended the claims to be directed to  
isolated outer membrane proteins related to the peptide of  
SEQ ID. No: 2. The claimed proteins are "isolated  
Lawsonia intracellularis outer membrane proteins that have  
molecular weights of about 37 kD and are obtainable from a  
Lawsonia outer membrane preparation by SDS-PAGE. They are  
further defined as being immunoreactive with antisera to  
SEQ ID NO: 2. Isolation of the proteins and production of  
and reaction with antisera are described in the Examples  
beginning on page 20.

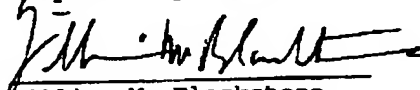
Attorney Docket Number 2000.605 US

It is believed that with the present amendments the Examiner's objections to and rejections of the claims have been overcome. With respect to the rejection of claims 9-10 and 34-35 under 35 U.S.C. 101, the claims are now directed to "isolated" proteins.

With respect to the rejections under 35 U.S.C. 112, first paragraph, the claims reciting percentage homology have been cancelled or amended to recite functional characteristics of the claimed protein that can be determined and tested by the skilled practitioner. Antisera preparation and testing are described in detail in the Examples. In addition, the "vaccine" claims are now directed to immunogenic compositions, which are well described.

It is believed that claims 9, 13, 18 and 21 - 38 recite a patentable improvement in the art. Favorable action is solicited. In the event any fees are required with this paper, please charge our Deposit Account No. 02-2334.

Respectfully Submitted,



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